

IN THE CLAIMS:

1.-8. (Cancelled)

9. (Original) A compressed data processing apparatus for reducing a picture updating frequency of a stream of picture data sets expressing respective compression-encoded pictures, said stream including picture data sets each containing prediction information expressing a compression-encoded picture as being predictively encoded with respect to a predetermined corresponding other one of said compression-encoded pictures as a reference picture, the apparatus comprising:

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

copy data memory means having stored therein a copy data set containing information indicating that a predictively encoded picture is identical to a corresponding reference picture,

picture data detection means for detecting a condition in which a set of data expressing a predictively encoded picture is currently held in said stream buffer memory means, and

data changeover means responsive to said detection for replacing all prediction information of said predictively encoded picture with said copy data set.

10. (Original) A compressed data processing apparatus for reducing a picture updating frequency of an MPEG compressed video data stream, comprising

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

copy data memory means having stored therein a B-picture copy data set containing information indicating that an overall amount of motion of an MPEG B-picture with respect to a preceding reference picture or with respect to a succeeding reference picture, expressed by a motion vector, is zero and information indicating that respective amounts of motion compensated prediction error for all macroblocks of said B-picture are zero,

picture data detection means for detecting a condition in which a set of data expressing a B-picture of said compressed

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video data stream is currently held in said stream buffer memory means, and

data changeover means responsive to said detection of B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said B-picture data set with said B-picture copy data set.

11. (Original) A compressed data processing apparatus for reducing a picture updating frequency of an MPEG compressed video data stream, comprising

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

copy data memory means having stored therein a P-picture copy data set containing information indicating that an overall amount of motion of an MPEG P-picture with respect to a reference picture, expressed by a motion vector, is zero and information indicating that respective amounts of motion

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compensated prediction error for all macroblocks of said P-picture are zero,

picture data detection means for detecting a condition in which a set of data expressing a P-picture of said compressed video data stream is currently held in said stream buffer memory means, and

data changeover means responsive to said detection of a P-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said P-picture data set with said P-picture copy data set.

12. (Original) A compressed data processing apparatus for reducing a picture updating frequency of an MPEG compressed video data stream, comprising

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

copy data memory means having stored therein a P-picture copy data set containing information indicating that an overall

amount of motion of an MPEG P-picture with respect to a temporally preceding reference picture, expressed by a motion vector, is zero and information indicating that respective amounts of motion compensated prediction error for all macroblocks of said P-picture are zero, and a B-picture copy data set containing information indicating that an overall amount of motion of an MPEG B-picture with respect to a temporally preceding reference picture, expressed by a motion vector, is zero and information indicating that respective amounts of motion compensated prediction error for all macroblocks of said B-picture are zero,

picture data detection means for detecting a condition in which a set of data expressing a P-picture or in which a set of data expressing a B-picture of said compressed video data stream is currently held in said stream buffer memory means, and

data changeover means controllable for selectively operating in a first mode whereby said data changeover means is responsive to said detection of a B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error

information of said B-picture data set with said B-picture copy data set and in a second mode whereby said data changeover means is responsive to said detection of a B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said B-picture data set with said B-picture copy data set and is responsive to said detection of a P-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said P-picture data set with said P-picture copy data set.

13. (Original) A compressed data processing apparatus for processing a selected part of an MPEG data stream to produce successive displacement in a predetermined direction for a final displayed picture corresponding to said selected part, the apparatus comprising:

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

first memory means having stored therein a P-picture copy data set which includes motion vector information which specifies a non-zero magnitude and a direction for a motion vector expressing an overall amount and direction of motion of a P-picture with respect to a temporally preceding reference picture, said copy data set further including motion compensated prediction error information which specifies zero amount of motion compensated prediction error for all macroblocks constituting said P-picture;

second memory means having stored therein a B-picture copy data set which includes motion vector information which specifies a non-zero magnitude and a direction for a motion vector expressing an overall amount and direction of motion of a B-picture with respect to a temporally preceding reference picture, said copy data set further including motion compensated prediction error information which specifies zero amount of motion compensated prediction error for all macroblocks constituting said B-picture; and,

picture data detection means for detecting a condition in which a set of data expressing a P-picture or in which a set of

data expressing a B-picture within said selected part of the compressed video data stream is currently held in said stream buffer memory means, and

data changeover means responsive to said detection of a B-picture data set being held in said stream buffer memory means for reading out said B-picture copy data set from said first memory means and responsive to said detection of a P-picture data set being held in said stream buffer memory means for reading out said P-picture copy data set from said second memory means and replacing all motion vector information and motion compensated prediction error information of said P-picture data set with said P-picture copy data set.

14. (Original) The apparatus according to claim 13, wherein said selected part of the MPEG data stream contains a plurality of I-pictures, and wherein said apparatus further comprises means for processing each of respective I-pictures which occur within said selected part of the MPEG data stream to produce a specific amount of displacement of a final displayed picture corresponding to said I-picture, with said amount of

displacement being a continuation of successive amounts of overall picture displacement which are respectively produced as an effect of B-picture and P-pictures which precede said each I-picture within said selected part of the MPEG data stream.

15. (Original) A recording and playback system for compressed data, comprising:

a recording medium;

recording means for generating a recording signal to record on said recording medium a plurality of program items expressed as respective streams of compressed digital data, each of said streams formed of successive picture data sets expressing respective compression-encoded pictures, and including picture data sets each containing prediction information containing prediction information expressing a compression-encoded picture as being predictively encoded with respect to a predetermined corresponding other one of said compression-encoded pictures as a reference picture;

playback means for playback of selected ones of said program items from said recording medium;

recording information means for acquiring respective recording information relating to said program items from said recording signal and for holding said recording information;

means for designating one of said recorded program items to be subjected to picture updating frequency reduction processing;

program item specifying means for obtaining recording information relating to said designated program item from said recording information means, and for controlling said playback means in accordance with said recording information to read out the recorded data of said program item from said recording medium as a compressed playback data stream;

and a compressed data processing apparatus coupled to receive said compressed playback data of a designated program item and process said playback data to obtain a processed MPEG video data stream, and supply said processed MPEG video data stream to said recording means to be recorded on said recording medium, said compressed data processing apparatus comprising

stream buffer memory means for receiving, temporarily storing, and outputting successive portions of said compressed video data stream,

copy data memory means having stored therein a copy data set containing information indicating that a predictively encoded picture is identical to a corresponding reference picture,

picture data detection means for detecting a condition in which a set of data expressing a predictively encoded picture is currently held in said stream buffer memory means, and

data changeover means responsive to said detection for replacing all prediction information of said predictively encoded picture with said copy data set.

16. (Original) The apparatus according to claim 15, wherein each of said streams of compressed digital data is an MPEG compressed video data stream, and wherein

said copy data memory means has stored therein a B-picture copy data set containing information indicating that an overall amount of motion of an MPEG B-picture with respect to a preceding reference picture or with respect to a succeeding reference picture, expressed by a motion vector, is zero and information indicating that respective amounts of motion

compensated prediction error for all macroblocks of said B-picture are zero,

said picture data detection means detects a condition in which a set of data expressing a B-picture of said compressed video data stream is currently held in said stream buffer memory means, and

said data changeover means is responsive to said detection of a B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said B-picture data set with said B-picture copy data set.

17. (Original) The apparatus according to claim 15, wherein each of said streams of encoded data is an MPEG compressed video data stream, and wherein

said copy data memory means has stored therein a P-picture copy data set containing motion vector information indicating that an overall amount of motion of an MPEG P-picture with respect to a corresponding temporally preceding reference picture is zero and information indicating that respective

amounts of motion compensated prediction error for all macroblocks of said P-picture are zero, and a B-picture copy data set containing motion vector information indicating that an overall amount of motion of an MPEG B-picture with respect to a corresponding temporally preceding reference picture or with respect to a corresponding temporally succeeding reference picture is zero and information indicating that respective amounts of motion compensated prediction error for all macroblocks of said B-picture are zero,

said picture data detection means comprises means for detecting a condition in which a set of data expressing a P-picture or in which a set of data expressing a B-picture of said compressed video data stream is currently held in said stream buffer memory means, and

said data changeover means is controllable for selectively operating in a first mode whereby said data changeover means is responsive to said detection of a B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said B-picture data set with said B-picture copy

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data set and in a second mode whereby said data changeover means is responsive to said detection of a B-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said B-picture data set with said B-picture copy data set and is responsive to said detection of a P-picture data set being held in said stream buffer memory means for replacing all motion vector information and motion compensated prediction error information of said P-picture data set with said P-picture copy data set.